ourdiu.com | Shared by Md. Mehedi Hasan

Daffodil International University

Department of Software Engineering
STA101: Statistics I
Batch: 44 Section: F
Course Instructor: Aman Ullah Aman
Full Marks: 15

Q1. **[5 Marks]** For each of the following variables, identify whether it is **Qualitative or Quantitative**. If quantitative, specify whether it is **Discrete or Continuous**. Also identify the **Scale of Measurement** (Nominal, Ordinal, Interval, or Ratio).

(a) Brand of graphics card installed in a computer.

(b) Number of files stored in a folder.

(c) Battery voltage of a laptop, measured in volts.

(d) Encryption method used to secure a database.

(e) Network signal strength, measured in decibels (dBm).

Q2. **[3 Marks]** For each scenario, identify the **Population**, the **Sample**, and whether the reported numerical value is a **Parameter or Statistic**.

(a) A university calculates the average monthly internet usage of all 2,000 SWE students and obtains 45 GB.

(b) A researcher selects 80 software developers from a population of 600 developers and finds that 35% use Linux as their primary operating system.

(c) A company has 400 servers. An engineer inspects 50 randomly selected servers and finds that 8% have hardware faults.

Q3. **[7 Marks]** A software company surveyed 30 randomly selected users about their preferred type of software license. Each user selected one category. The recorded responses were:

Open Source, Commercial, Freeware, Open Source, Subscription, Commercial, Open Source, Freeware, Subscription, Commercial, Open Source, Subscription, Freeware, Commercial, Open Source, Commercial, Freeware, Open Source, Subscription, Commercial, Freeware, Open Source, Commercial, Subscription, Open Source, Commercial, Freeware, Subscription, Open Source, Commercial.

Using the given data, answer the following questions.

(a) Construct a frequency distribution table showing the five categories and their frequencies. **[2]**

(b) Extend the table to include the relative frequency and percentage frequency for each category. **[2]**

(c) Draw a bar chart representing the frequency of each category. **[1.5]**

(d) Draw a pie chart representing the percentage distribution of the five categories. **[1.5]**